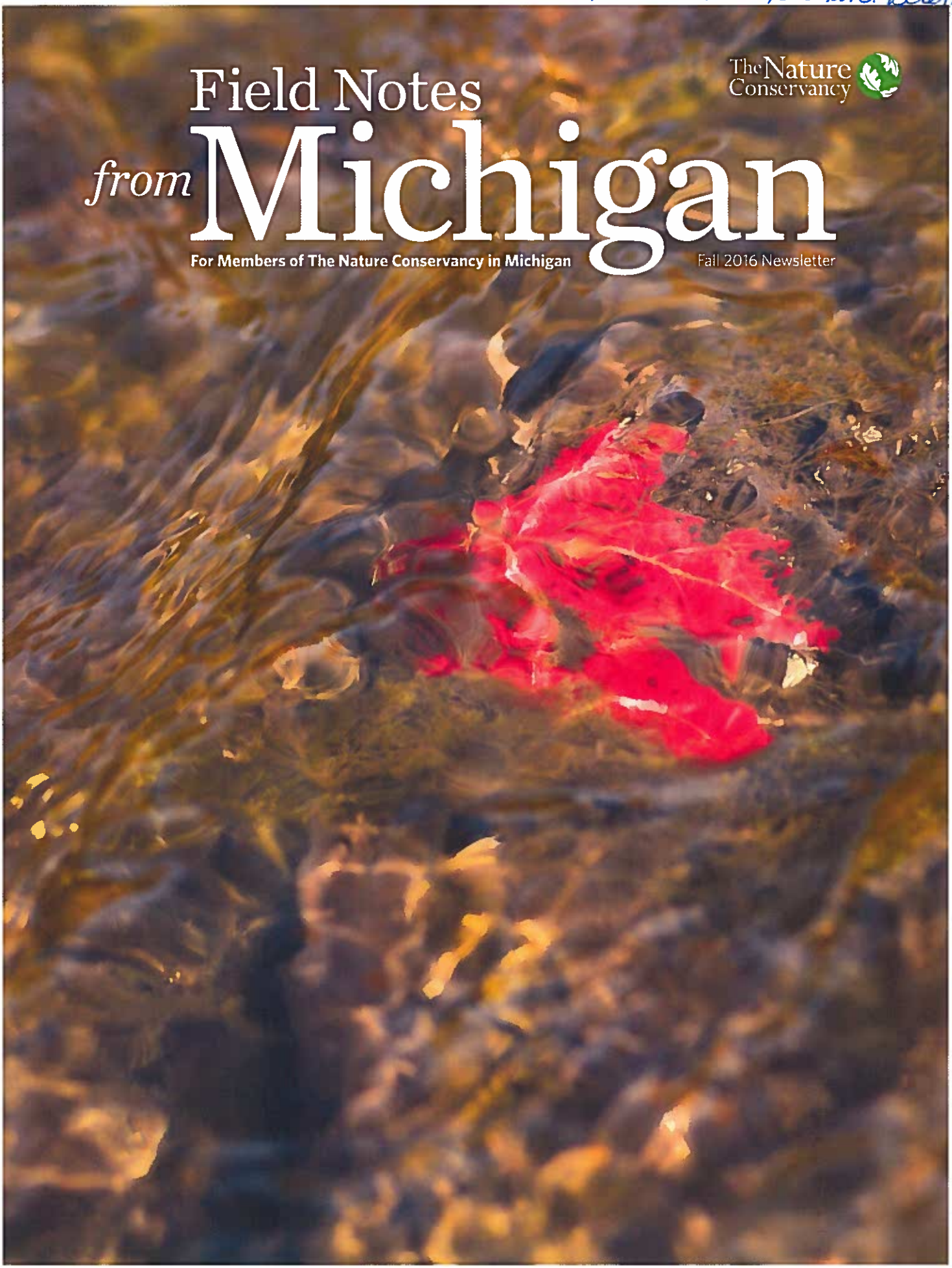
3/8/2017 # Richard Bowman

Field Notes *from* Michigan

The Nature Conservancy

For Members of The Nature Conservancy in Michigan

Fall 2016 Newsletter

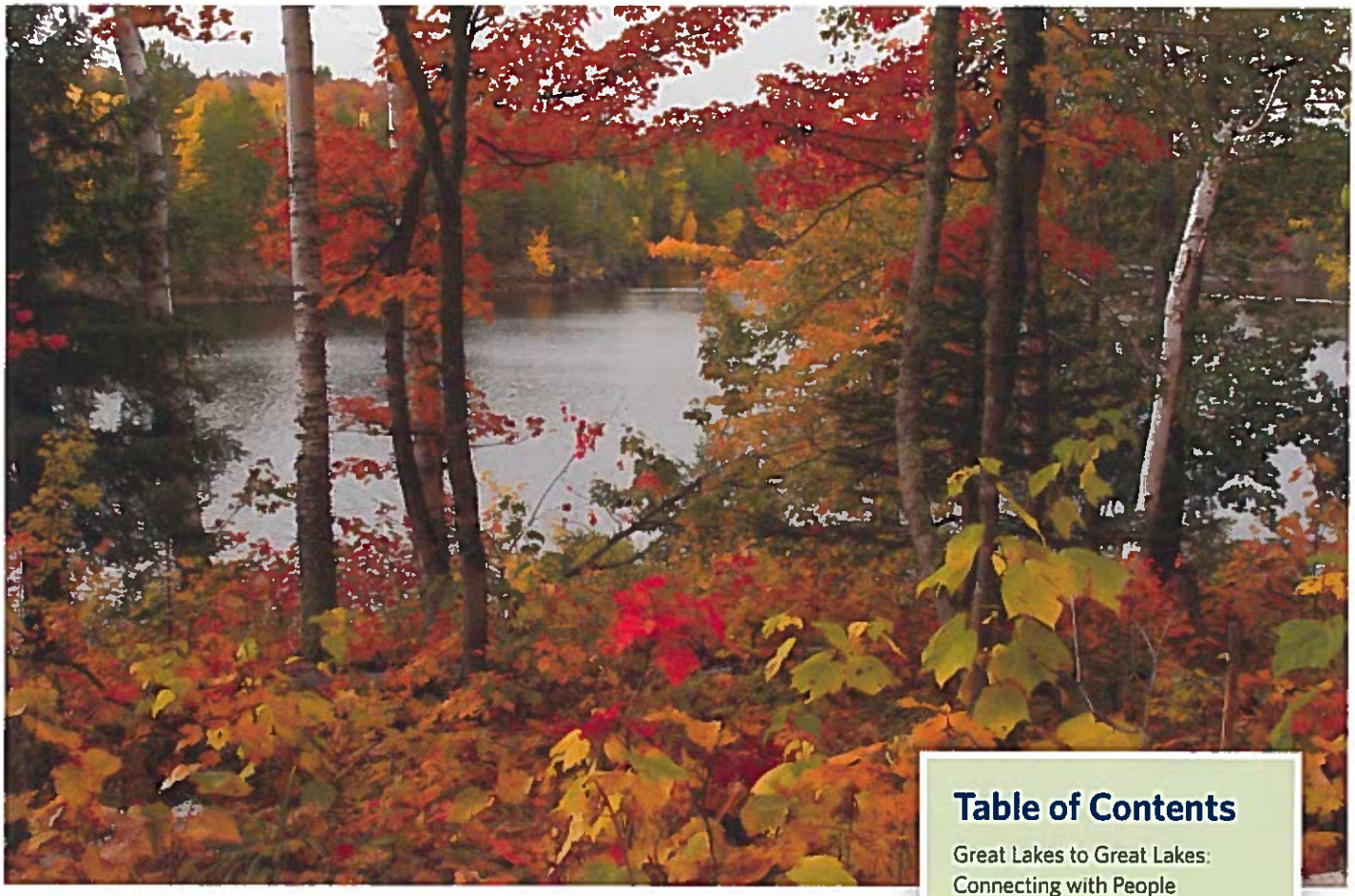


Watch a video about Grand River Fen Preserve at nature.org/preserves. © Michael D-L Jordan

Where We Work

Since 1960, The Nature Conservancy has protected more than 377,000 acres in Michigan. This map illustrates how our approach to protecting nature and preserving life has expanded to encompass priority projects at landscape and watershed scales.

The Conservancy's work has grown from place-based land protection projects to include sustainable water and land-use practices and policy; innovative research and tool development; long-term strategic planning, and ultimately, whole-system conservation worthy of our location in the heart of the world's largest freshwater system.



© Jason Whalen

This fall, volunteer at places like The Nature Conservancy's Echo Lake Nature Preserve near Marquette (see page 15).

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Greetings From Helen

Fall is the season of homecoming, when we harvest the results of hard work and efforts of the summer. Here at The Nature Conservancy, we have many conservation successes from the past few months to share with you.

One of the things I'm most excited about is how our local programs are impacting conservation all across the globe. On page 6, for example, you'll read about how our director of stewardship recently spent six weeks in China. He was helping our colleagues in the Yunnan Province restore a wetland, but he also learned valuable lessons that can be applied to conservation efforts here at home.

Additionally, Associate State Director Patrick Doran and I traveled to Africa with members of our board of trustees to visit that continent's Great Lakes, which suffer from threats very similar to our own. There is incredible information and resources to be shared on both sides. We found more commonalities than differences, and by working together, we can leverage our combined expertise to protect some of the world's most important freshwater resources. You can read more about this initiative on page 4.

Please take a look at the rest of the issue for the full impact your support has made on Michigan's lands and waters—and on places far beyond.

Yours in conservation,
Helen Taylor
State Director

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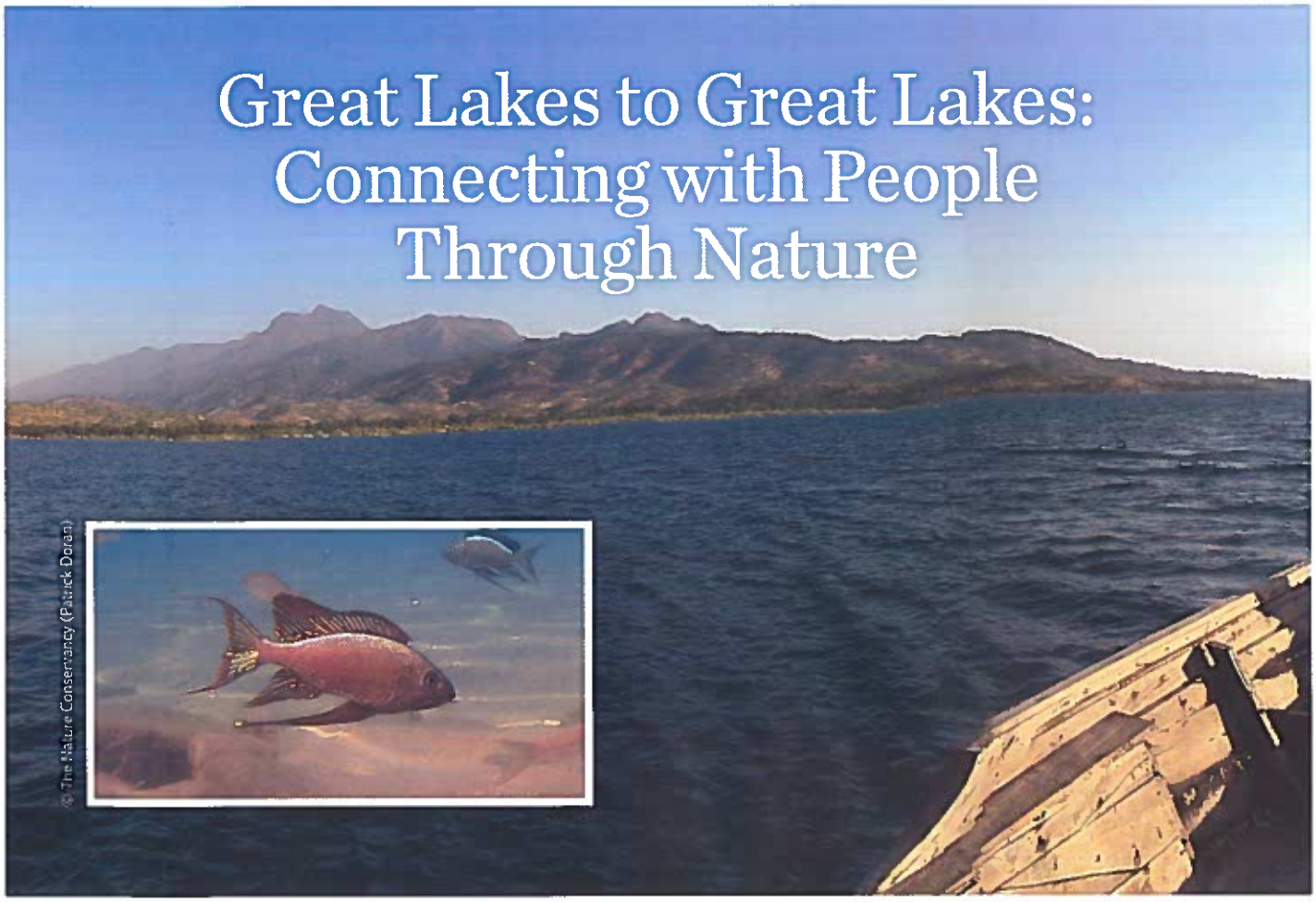
State Director Helen Taylor

Great Lakes to Great Lakes: Connecting with People Through Nature



Lake Tanganyika in western Tanzania is the world's longest freshwater lake, containing more than 300 fish species found nowhere else on Earth.

By Patrick Doran, Associate State Director

Did you know that 8,000 miles away, there's another system of Great Lakes very similar to those in our own backyard? The African Great Lakes are a series of nine lakes that stretch across six countries and are some of the largest and most ecologically diverse freshwater systems on the planet.

This June, I traveled with other Conservancy staff, members of our board and generous supporters, to the largest African Great Lake, western Tanzania's Lake Tanganyika. It is the world's second largest freshwater lake by volume, containing 17 percent of the world's freshwater. That's as much as Lakes Superior, Michigan, and Huron combined!

The diversity of life there is amazing, from the more than 300 species of fish that make the lake home, to the chimpanzees and other primates that reside in the forests bordering the lake. While places like Mahale Mountains National Park (MMNP) protect local lands and waters, beyond park borders, Tanzania's natural areas are subject to mounting threats and uncertainty.

Recognizing these urgent needs, The Nature Conservancy is partnering with Frankfurt Zoological Society and Pathfinder International on a project called Tuungane, which is Swahili for "Let's Unite." Through Tuungane, we are

Dr. Patrick Doran finds similarities in selfies taken in both Michigan and Africa.

Tanzania's Lake Tanganyika is the world's second largest freshwater lake by volume, containing 17 percent of the world's freshwater. That's as much as Lakes Superior, Michigan and Huron combined.

© The Nature Conservancy (Patrick Doran)

From chimpanzees to elephants, the west Africa terrain supports a wealth of wildlife. © Bob Osborne

taking a holistic approach that simultaneously addresses community healthcare, livelihoods, and conservation, seeking to protect nature while also improving people's lives.

On the people side, we are helping to build the capacity of village governments by designing training programs that meet specific community needs around health and finance. On the nature side, we are helping to strengthen forest management and enhance fisheries management. Together, these efforts add up to integrated solutions that address the pressures on both people and nature.

This connection between people and nature—"Watu na asili" in Swahili—is what struck me the most during this trip. During a potluck meal shared with residents and Conservancy staff members from the Africa program, we learned how closely tied the health of the lakes are to the well-being of the villages. As one trustee told me afterward, "What's good for the lake is good for the people, and what is good for the people is good for the lake," a sentiment you would be just as likely to hear in Michigan.

That's why we're working across the globe to share conservation approaches. The issues impacting the Maziwa Makuu, or Great Lakes of Africa, are similar to our own: governance, forest management, water quality, coastal management and invasive species. To inform conservation efforts, we are working with the Conservancy's Africa team to build a Lake Tanganyika conservation blueprint, similar to blueprints created for the Great Lakes. We are collaborating on the management of aquaculture and fish farms to promote healthy fisheries, address illegal fishing, and stop the spread of invasive species. And, we are helping to convene an African Great Lakes Summit in 2017 in Africa's Great Lakes Region. By uniting and sharing knowledge, we can protect both the Great Lakes of North America and Africa, which together contain half of the surface fresh water in the world.

This map shows tributary streams of the Great Lakes, with streams that are connected to the lakes (at least partially) shown in blue and streams without any connectivity to the Great Lakes in grey.

Mapping a Conservation Path for Migratory Fish

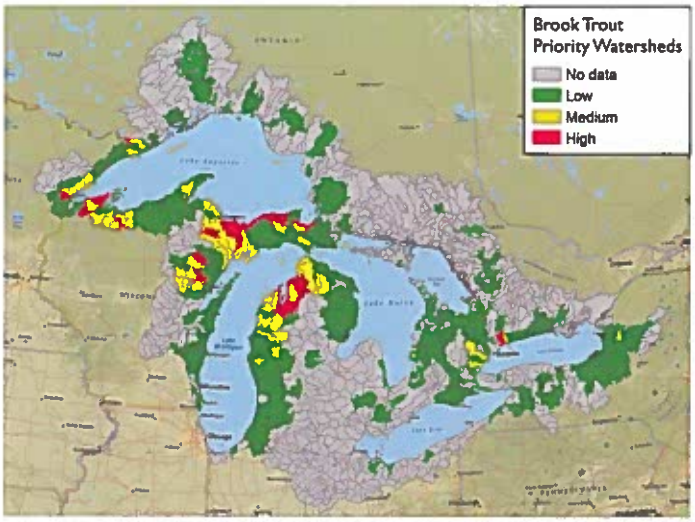
Five years ago, Conservancy scientists and partners were hard at work on conservation management plans for the Great Lakes when they realized something surprising.

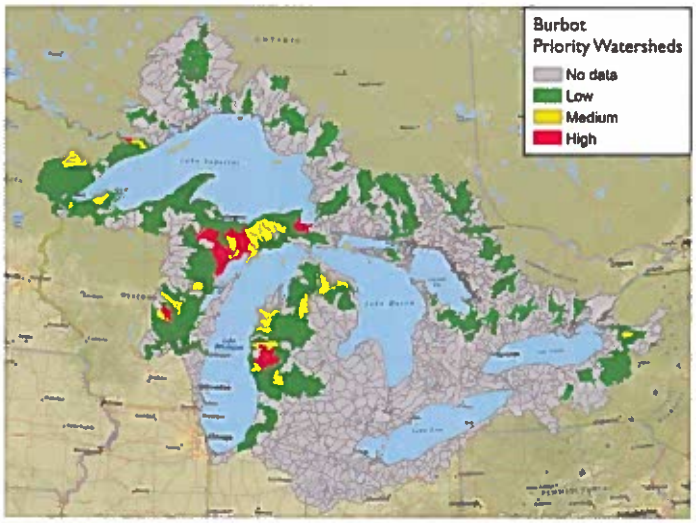
"We had assembled experts from around the basin to help us identify conservation goals for each lake," explained Matt Herbert, an aquatic ecologist for the Conservancy. "Migratory fish were identified as one of the most important conservation features for every single lake, but we realized that comprehensive maps that showed where fish were migrating, as well as which streams and rivers they were using, simply didn't exist."

As a result, the Conservancy and its partners gathered data from 25 sources around the basin to learn how migratory fish were moving between the Great Lakes and their tributaries—and what barriers were standing in their way. The result is a series of groundbreaking maps that identify priority habitat for more than 40 fish species.

"None of the data in these maps had ever been aggregated before," said Mary Khoury, a freshwater ecologist for the Conservancy. "It's very valuable to identify which tributaries are most important for fish, because we will use that information to decide which streams are priorities for our reconnection efforts."

On average across the basin, only 25 percent of tributary streams are connected to the Great Lakes. The rest are interrupted by dams, problematic road-stream crossings (such as undersized culverts), or other barriers that make it impossible for migratory fish to pass, thereby prohibiting access to critical spawning and feeding habitats.





Scientists have created a series of maps to show priority watersheds for several species of migratory fish, including brook trout and burbot.

"There are economically important species like walleye, sturgeon, northern pike, and perch that rely on migration for their survival," Matt said. "But there are other species that use the tributaries as well: suckers, minnows, and darters. Every part of the food chain is represented."

The Conservancy and scientists from the University of Wisconsin and the Wisconsin Department of Natural Resources will use these maps, along with others, to determine which tributaries are priorities for reconnection.

"These maps are a great tool that, when paired with other data such as reconnection costs, invasive species risk, or habitat condition, paint a very clear picture of which areas to target for our reconnection and restoration efforts," Mary explained.

"Modeling alone is not enough; the next steps are to go out into the field and see which barriers are the most problematic. But the maps save us time and footwork by identifying where to focus on reconnecting the tributaries that will have the best outcomes."

Growing Nature in Urban Spaces

By 2050, it is estimated that 70 percent of the world's population will live in cities. The growing urban population will put severe pressure on natural resources, increasing demand for food, water and energy. The Nature Conservancy is working to fundamentally change the relationship between cities and nature so that both can thrive. Urban communities have significant impacts on natural resources, and the Conservancy believes that incorporating nature into cities can help to mitigate those impacts while bringing the many benefits of nature to people.

In Saginaw, the Conservancy is working with local, state and federal agencies and organizations to develop and implement a community vision for a former industrial property owned by the RACER Trust. Thanks to a grant from the Saginaw Community Foundation, concrete and pavement will be transformed into public nature trails with river access and will become part of a larger regional vision for open space and recreation lands.

"The Riverfront Park project is extremely exciting for the city and county of Saginaw, as well as the region as a whole, with possible trail connections to both the Iron Belle Trail route through Saginaw and the Saginaw Valley Rail Trail," said Brian Lechel, director of Saginaw County Parks.

Further south, the Conservancy is helping to grow connections to nature in some of Michigan's biggest urban areas. Through a grant from the Conservancy's Nature Works Everywhere program, Allen Elementary School in Ann Arbor and Gompers Elementary-Middle School in Detroit received materials and instruction that engaged students and local volunteers in building school gardens. The Nature Works Everywhere program also provides environmental science lessons focused on gardens that the schools can use to supplement their curriculum.

"We are honored to present these schools with our first competitive Nature Works Everywhere garden grants in Michigan," said State Director Helen Taylor. "We look forward to supporting this hands-on learning opportunity, which we hope will grow into a life-long appreciation for conservation and the environment."

In this way, the Conservancy's urban conservation efforts are both growing nature in urban spaces and the next generation of conservation leaders who will protect our natural world well into the future.

The Nature Conservacy is working with partners to turn a former factory site into a riverside park in Saginaw.

© Michael D-L Jordan

Crop advisors, farmers, agribusiness leaders, anglers and conservationists boarded the Appledore tall ship in August to learn how agriculture affects Saginaw Bay and the Great Lakes.

Conservation Sets Sail in Saginaw Bay

© Michael D-L Jordan

Sailing and farming may seem like two things that don't go together. But this August, members of Michigan's agricultural community boarded a tall ship to learn about Saginaw Bay and what they can do to help protect it.

"This half-day sail was a way for all of us to explore the importance of Saginaw Bay and how it's essential to both people and nature," said Patrick Doran, associate state director. "From the aquatic life that swims through its waters to the people that boat and fish there, to the cities that use it for drinking water, there are many who depend on the bay."

But in recent years, nuisance algal blooms, which are accelerated by the nutrients found in fertilizer runoff, as well as from leaching septic systems and discharges from water treatment plants, have impacted water quality.

"When nutrients wash into our rivers and lakes, they stimulate the growth of algae, deplete oxygen and degrade water quality," said Patrick. "The good news is that there are a number of conservation practices farmers can use to keep nutrients and loose soil where they belong—on the field."

Farmers are already leading the charge for change by signing up for three innovative conservation programs in the Saginaw Bay watershed. One of these, the Saginaw Bay Regional Conservation Partnership Program (RCPP), provides funding to help farmers implement conservation practices such as cover crops on their fields. Since the program launched in 2015, a total of 33 farmers have enrolled and $1.5 million in Farm Bill funding has been obligated for the adoption of new conservation practices, which means more than 13,000 acres of new conservation in the Saginaw Bay watershed.

"These numbers far surpass our original goal of 1,880 acres by end of September this year," said Mary Fales, the Conservancy's Saginaw Bay Watershed Project Director.

Two other conservation programs are financially rewarding farmers for the measurable impacts of new conservation practices on their fields as well. One, funded by the EPA through the Great Lakes Restoration Initiative, provides financial incentives for farmers who reduce the amount of sediment leaving their farm fields. The other, funded by Method, the Coca-Cola Foundation, and Keurig/Green Mountain, provides funding to farmers who help replenish groundwater stores in the Saginaw Bay watershed.

Even though the RCPP and other programs incentivize the same soil-saving practices for reducing sediment and nutrient loads, RCPP still follows the USDA and NRCS's payment structure of per-acre rates while the sediment reduction and groundwater recharge programs pay farmers for specific conservation outcomes, such as the total tons of sediment kept out of rivers and lakes or the gallons of groundwater recharged. This innovative approach to funding conservation is considered a "pay-for-performance" approach.

"We're really excited about all three of these models," said Mary. "Ideally, we can learn what works best on different kinds of farms and apply the best from all models in other watersheds around the Great Lakes."

Fellowship Fosters Conservation Exchange Between Countries

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Michigan Restoration Director Chris May used experience gained from managing Michigan wetlands to share conservation practices and lessons with Conservancy colleagues in China.

Heqing County, China, and Monroe, Michigan may be thousands of miles apart, but when it comes to conservation, they're a lot closer than you think.

Chris May, the director of stewardship for The Nature Conservancy in Michigan, spent six weeks in China last winter and spring helping the Conservancy's China Program restore a wetland that's facing challenges similar to those right here at home.

"I helped develop a restoration and management plan for a wetland located near a tributary of the Yangtze," Chris said. "I jumped at this opportunity because it's a large-scale water management project that's very similar to the work I've done at our Erie Marsh Preserve near Monroe, Michigan."

The 250-acre wetland, located in the Yunnan Province, is suffering from lack of water management and degraded water quality. Local farmers use the wetland to irrigate nearby rice and lotus crops, and when they return the water to the wetland in the fall, it can be loaded with sediment and nutrients from the fields. Additionally, a silver handcraft cottage industry in a village located upstream contributes heavy metals to the river that runs into the wetland.

"Those heavy metals could potentially enter the water the farmers are using for their crops," Chris explained. "The good news is that the wetland is already doing an excellent job of cleaning the water before it gets to the fields."

However, with better water management plans, the wetland could be even more effective in keeping the water clean for people and nature. Much like Erie Marsh, which the Conservancy recently reconnected to Lake Erie for the first time in more than 60 years, the Chinese wetland complex needed a strategy for managing seasonal water variances.

"I used my experience at Erie Marsh to explain to the China team how they can use water levels to manage native plant communities," Chris said. "These plants not only help clean water in the wetland for people, they also provide a food source for the 8,000 to 10,000 birds that stop at the wetland each migration season."

© The Nature Conservancy (Chris May)

A 250-acre wetland in China's Yunnan Province faces challenges similar to Erie Marsh in Michigan, such as water flow management.

Ultimately, the lessons shared between Chris and his colleagues in China could have a ripple effect that reaches far beyond both Heqing and Monroe.

Land Protection and Restoration Update

From rocky Lake Superior shorelines to vibrant wetlands teeming with wildlife to golden dunes that are home to rare species, since 1960 we've protected Michigan's most important wild places with the generous help of our donors. Through your support, we continue our long tradition of land protection to reach our conservation goals.

You may have wondered how we focus our protection efforts and decide which lands and waters to acquire or transfer. Conservation science put into practice is a carefully planned process. We regularly analyze our protected areas to understand the next steps for restoration, and determine which partner organizations to collaborate with to achieve conservation goals and how we can expand the footprint of our natural areas. The mix of our protection strategies—purchases, easements, and transfers—are what has allowed us to link larger landscapes together and protect more than 377,000 acres across the state in the past 56 years.

Thanks to your support, here are our most recent accomplishments in protecting lands, waters and wildlife.

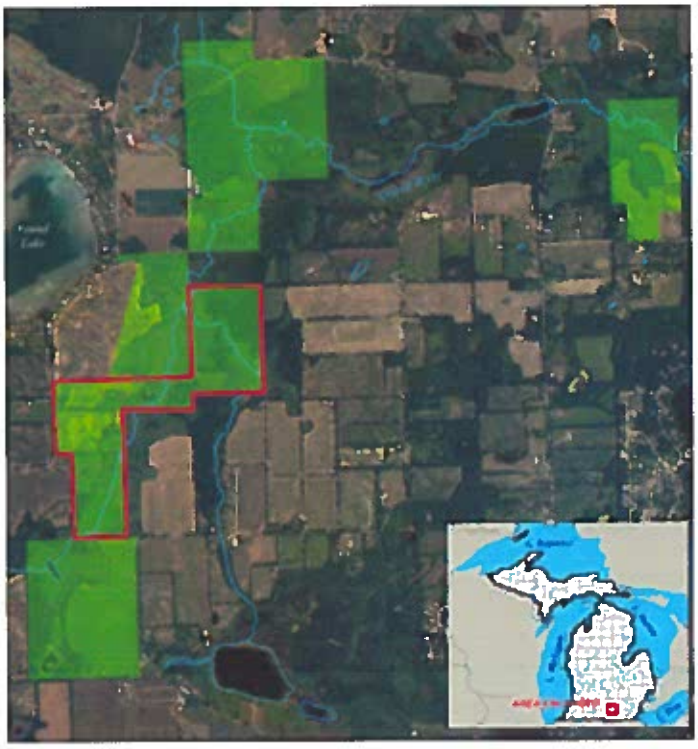
Grand River Fen Preserve

The Conservancy purchased an important natural area near the headwaters of Michigan's longest river, the Grand River, which winds its way through Michigan's landscape for 252 miles. The acquisition of 153 acres connects the north and south portions of the Conservancy's Grand River Fen Preserve, bringing the total area protected as a nature preserve to 606 acres. The high-quality wetland area is home to many endangered and rare species, and is a key stepping stone in establishing a corridor for plants and animals to move between natural areas, such as the Grand River Fen preserve and nearby Skiff Lake, and also provides the opportunity to develop trails and a parking area for visitors. The Nature Conservancy acquired the land through the generous support of Dr. John Woollam, who was recently named to the Michigan Environmental Hall of Fame. The property will be named in honor of Dr. Woollam's mother, Mildred Hakes Woollam.

Two Hearted River

The Conservancy received a generous gift of 10 acres of high-quality habitat that has been added to the 24,402-acre Two Hearted River Forest Reserve, an incredible natural area comprised of forest and river habitat that is home to an abundance of native plants and wildlife. The property is also part of the 132-acre Stuart Lake bog, an unusual type of wetland that takes thousands of years to form. This charitable donation ensures that 83 percent of this high-quality bog is protected.

Grand River Fen Preserve



The 153-acre Mildred Hakes Woollam property connects the north and south portions of our Grand River Fen Preserve.

Pictured Rocks National Lakeshore

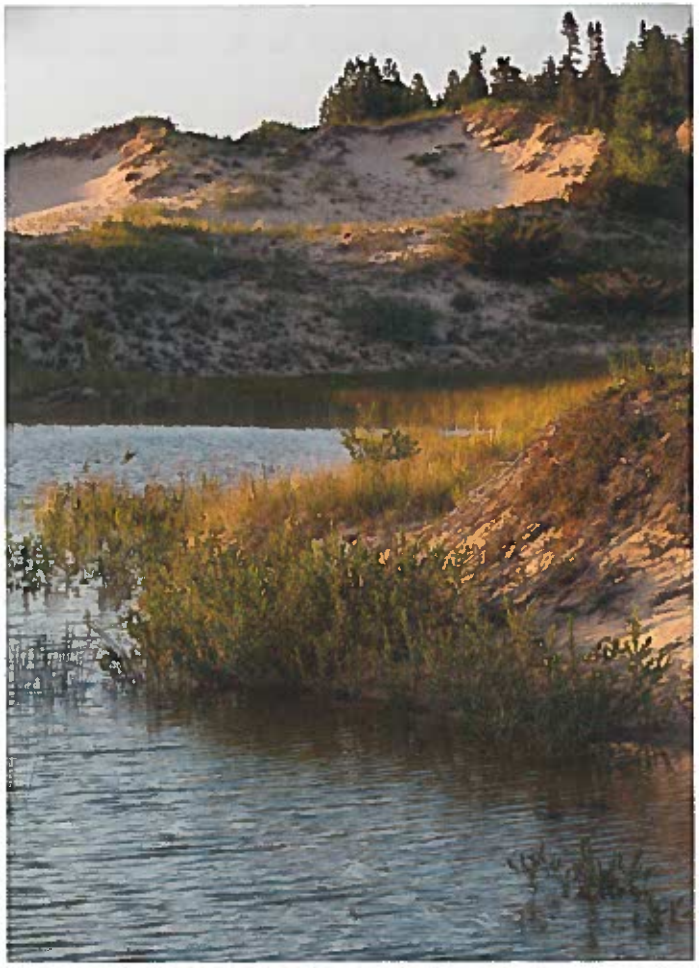
The Conservancy received a generous donation of 38 acres on Grand Isle in Lake Superior from Walter and Delora Loope. Their gift, located adjacent to Pictured Rocks National Lakeshore, is protecting forest and migratory bird habit. Because of its location next to Pictured Rocks, the Conservancy gave the land to the park in June 2016. Thanks to the Loope's generosity, this wild place and the wildlife that call it home will be protected for generations to come.

Drummond Island

Along the scenic shorelines of Lake Huron, the Conservancy is working to protect four important natural areas: Grass Bay, Les Cheneaux, North Point and Drummond Island, with a goal of protecting an additional 2,300 acres. Our recent purchase of 10 acres and 2,000 feet of shoreline on Drummond Island will help us reach this goal and adds to the Conservancy's 1,220-acre Maxton Plains Preserve.

Zetterberg Preserve at Point Betsie

Along the Lake Michigan coastline, Michigan's iconic sand dunes provide essential habitat to piping plover, Pitcher's thistle and other rare plants and wildlife that rely on the Great Lakes for survival. With a recent purchase of 1.3 acres of dune habitat, we have connected the north and south portions of the Conservancy's 145-acre Zetterberg Preserve at Point Betsie, thereby expanding this important natural area and adding to our long-term goal of protecting dunes along the Eastern Lake Michigan shoreline.



A critical purchase of dune habitat connects the north and south portions of our Zetterberg Preserve at Point Betsie.

A new purchase will add to the natural communities of alvar, rich conifer swamp, boreal forest, bedrock beach, and Great Lakes marsh found on Drummond Island.

Great Lakes Update

The Great Lakes comprise the largest freshwater system on Earth, providing immeasurable value to both people and nature. Today, as our population grows, this vast natural resource faces increased pressure. The Conservancy is working in all eight of the Great Lakes states to confront these challenges by restoring our majestic coastlines, improving water quality in rivers and lakes, preventing and removing invasive species, and protecting our northern forests. Following is an update on priority projects from across the region.

Healthy Waters

Battling Aquatic Invasive Species

The Conservancy continues to work closely with university and industry partners to test and develop tools to combat aquatic invasive species. Last spring, biodegradable mats were deployed on the bottom of Barton Lake, Michigan, to assess whether using these mats could control different aquatic weed species such as Eurasian water milfoil and starry stonewort. Central Michigan University, Grand Valley State University, Montana State University, the architectural design and engineering firm Progressive AE and staff from the Michigan Department of Environmental Quality (MDEQ) all partnered with the Conservancy on this project, which is funded through the Michigan Invasive Species Grant Program.

In addition, the Conservancy continued its work with MDEQ and other Great Lakes state agencies to finalize a Great Lakes basin-wide aquatic invasive species surveillance plan. Results from this work were presented to the National Aquatic Invasive Species Task Force last May in Traverse City. In recognition of progress made over the last 18 months, the U.S. Fish and Wildlife Service awarded another year of support to broaden the scope of the effort, and also fund implementation of the surveillance plan. While continuing to help facilitate this work, the Conservancy is working with Canadian partners to extend the surveillance plan into the Canadian waters of the Great Lakes.

The Conservancy is actively participating on the Chicago Area Waterway System (CAWS) Advisory Committee, which seeks to help the U.S. Army Corp of Engineers identify solutions to prevent the passage of invasive species through the Chicago canal system both into and out of the Great Lakes. Last year, the Conservancy commissioned a study by the U.S. Geological Survey (USGS) to identify possible options for use of a lock treatment system to stop the movement of aquatic invasive species. This year, at the Conservancy's encouragement, the U.S. Environmental Protection Agency (EPA) provided funding to USGS to conduct trials testing the effectiveness of these options. The Conservancy is also currently exploring a conceptual engineering study to illustrate how a treatment technology that is both environmentally and economically sustainable could be implemented within the CAWS.

Protecting Water Quality

In Western Lake Erie, the Conservancy and partners recently completed three studies to understand where conservation practices can have the biggest impact. Although more farmers

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The project crew deployed mats on inland lakes in Michigan to test control of aquatic invasive plants. "If the mats are an effective way to get rid of these plants," said Andrew Tucker, AIS Applied Scientist (right photo), "this could be a long-term solution that does not require the use of herbicides."

are using conservation practices on their fields, agriculture accounts for 3 million acres, covering more than 70 percent of the land in the Western Lake Erie Basin (WLEB), and water quality remains a challenge. These studies will help the Conservancy and partner organizations determine the best places to target for conservation, as well as inform management strategies, programs and policies to improve water quality and habitat health in the basin.

Jessica D'Ambrosio joined the Conservancy as the new Western Lake Erie Basin agriculture director and will lead efforts to collaborate with the agricultural community and improve water quality in the region. She brings with her a wealth of experience from her previous role at Ohio State University in program management and a strong history of teamwork with a variety of stakeholders on agricultural conservation issues directly related to the WLEB.

Healthy Forests

The Nature Conservancy and the Ottawa National Forest recently signed a stewardship agreement that will capitalize on the extensive restoration experience of both agencies. Stewardship agreements allow national forests to enter into partnerships with private organizations to sell timber and use the proceeds to do conservation restoration of the forestland. Under the stewardship agreement signed by both parties at the end of July, the Conservancy will manage a sustainable forestry harvest of mature red pine in south central Houghton County. The Conservancy will then complete several restoration projects with the proceeds, including restoration of a coldwater fishery along the Ontonagon River through extensive tree planting, trail maintenance and repair within the McCormick Wilderness, riparian area planting along several branches of the Ontonagon River, replacement of a bridge along the North County National Scenic Hiking Trail and preparation for restoring an area of jack pine forest.

Healthy Coasts

In the Western Lake Erie Basin, the Ohio Chapter's Coasts and Islands Program has continued partnering with the U.S. Fish and Wildlife Service and Ohio Department of Natural Resources' Division of Wildlife to improve habitat in coastal wetlands. At the Conservancy's Great Egret Marsh Preserve, we recently completed a new main water control structure. This new structure will allow for more effective water management within the marsh, allowing native fish safe passage into and out of the marsh while excluding large, invasive carp, which had dramatically affected the marsh's native aquatic plant community. Native emergent vegetation is already returning to the previously barren wetlands at the preserve. The forest restoration in the upland portion of the preserve is also ongoing, with continued focus on combatting invasive plants while promoting native trees and shrubs as well as pollinator habitat.

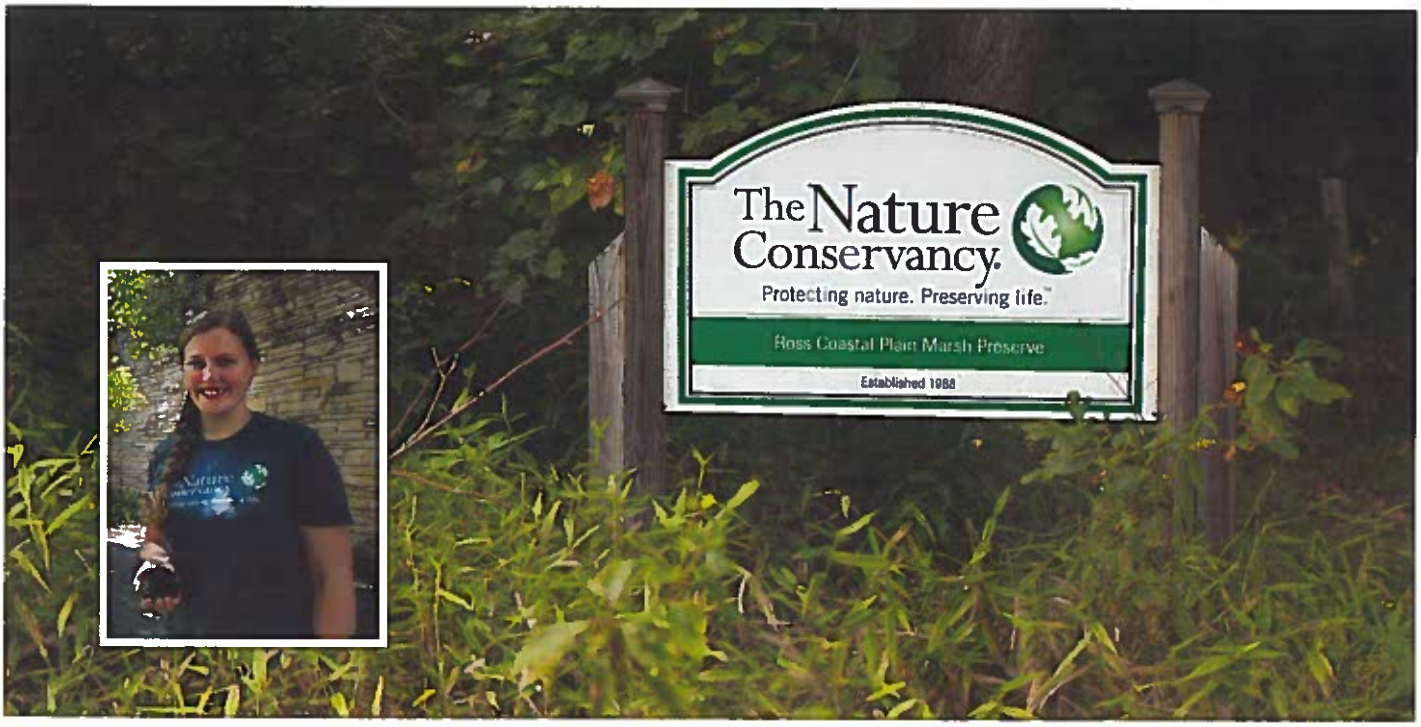
Over the summer, along the Eastern Lake Michigan shoreline, the Conservancy worked with five Michigan Dune Alliance partners to survey 10,000 acres across more than 50 coastal sites for invasive species such as baby's breath, Japanese knotweed and kudzu, which harm this important natural habitat.

Finally, the Conservancy is working to improve visitor facilities and access at our preserves along the shoreline, including Ross Coastal Plain Marsh and Portage Point Woods Preserves. The next time you visit these incredible natural areas, your trip will be enhanced by informational kiosks, trail maps and markings, and improved parking areas.

Be sure to visit our new installation for visitors at the Point Betsie Lighthouse describing our dune restoration work at our Zetterberg Preserve at Point Betsie and along the eastern Lake Michigan shoreline.

© Big Foot Media (Jason Whalen)

While plants are important for fish and other aquatic life in lakes, large stands of Cabomba (or, Carolina fanwort) and Eurasian watermilfoil, two of the most common invasive species in Barton Lake, can make it harder for fish to feed and reproduce. Benthic mats work by blocking out sunlight to infested areas, stopping plant growth. Research in other lakes has shown that burlap mats can control invasive weeds and promote regrowth of native plants—without the use of chemicals.



© Big Foot Media (Jason Whalen) INSET © The Nature Conservancy (Christin Jones)

Try geocaching at a Nature Conservancy preserve! Visit **nature.org/miplaces** to find a preserve near you.

Geocaching Growing at Conservancy Preserves

Geocaching is a fast-growing hobby for the entire family. This fun, outdoor recreational activity challenges players to locate hidden containers, called geocaches. Smartphones or GPS are used to locate the signal of the cache. Once the cache is found, players can share their experiences online.

Geocaching is a great activity for kids! It gets the whole family outside to explore the natural world, teaches kids about navigation and offers the fun reward of finding real hidden treasure. Once back home you can share your stories and photos of the adventure!

Log on to www.geocaching.com to set up a free account and start the hunt. Then visit the following Nature Conservancy preserves in Michigan to find geocaches:

Caches each resemble something from nature and inside is a log to be signed along with some cool facts about the preserves.

Grab your hiking boots and get out there!

PRESERVE NAME	Waypoint	Type of Cache
East Branch Prairie Preserve	GC1VHZV	Earthcache
Erie Marsh Preserve	GCJW67	Traditional Geocache
Mary Macdonald Preserve at Horseshoe Harbor	GC34PC3	Earthcache
Mary Macdonald Preserve at Horseshoe Harbor	GC3ARDY	Earthcache
Maxton Plains Preserve	GCPW9N	Earthcache
Nan Weston Nature Preserve at Sharon Hollow	GC60BHX	Traditional Geocache
Paw Paw Prairie Fen Preserve	GC1EFVD	Traditional Geocache
Paw Paw Prairie Fen Preserve	GC1ENZG	Earthcache
Paw Paw Prairie Fen Preserve	GC1C6VC	Traditional Geocache
Paw Paw Prairie Fen Preserve	GC1CF9D	Traditional Geocache
Paw Paw Prairie Fen Preserve	GC2AYMQ	Traditional Geocache
Paw Paw Prairie Fen Preserve	GC60BFZ	Traditional Geocache
Ross Coastal Plain Marsh Preserve	GC602D8	Traditional Geocache

Geocaching Guidelines & Etiquette:

- Caches are only accessible during hours of operation.
- Stay on marked trails at all times.
- Do not litter. Carry out all trash when you leave a preserve.
- Please respect the land; do not remove plants, animals, artifacts, or rocks.
- For your safety and comfort, bring drinking water, hats, sun protection, bug repellent, and use appropriate footwear.

© The Nature Conservancy (Patrick Doran)

Hear Dr. Patrick Doran talk about common challenges and solutions facing the Great Lakes of North America and Africa at an upcoming Conservation Cafe.

You're Invited

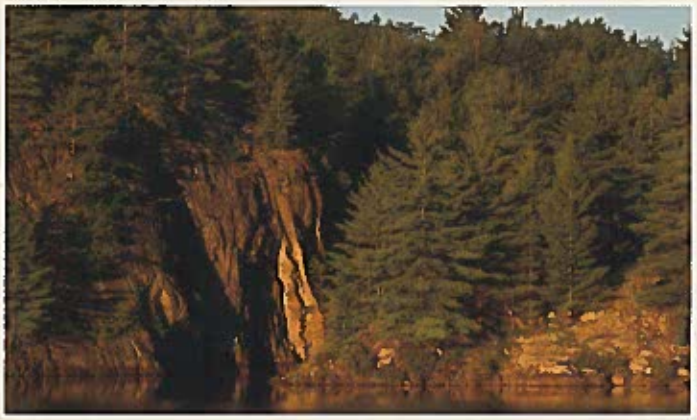
Conservation Café: Great Lakes to Great Lakes

Join Dr. Patrick Doran for a lunch and presentation as he discusses Great Lakes conservation strategies shared on his travels to Lake Tanganyika in Tanzania, Africa. Dr. Doran will discuss how a whole system approach to conservation in the Great Lakes of Michigan and Africa can benefit both people and nature. Take a virtual tour of the Conservancy's Tuungane Project and the Serengeti as he shares beautiful photography and inspiring lessons learned.

This program runs from 12-1 p.m. and will take place at two locations:

October 21, Frederik Meijer Gardens & Sculpture Park, Grand Rapids, MI

November 4, Ann Arbor City Club, Ann Arbor, MI



© Jason Whalen

Volunteer opportunities continue at Echo Lake Preserve near Marquette.

Volunteer at Echo Lake

November 19 and December 10 from 11 a.m.–3 p.m.

Volunteers will work on general preserve maintenance, removing invasive species, and restoration projects. Please bring water and a lunch. Email **echolake@tnc.org** for more information or to coordinate carpools.

To register or for additional information, visit nature.org/mievents or contact Mary Louks at (517) 316-2260 or mlouks@tnc.org.

The Nature Conservancy
Protecting nature. Preserving life.

The Nature Conservancy
101 East Grand River
Lansing, MI 48906
nature.org/michigan

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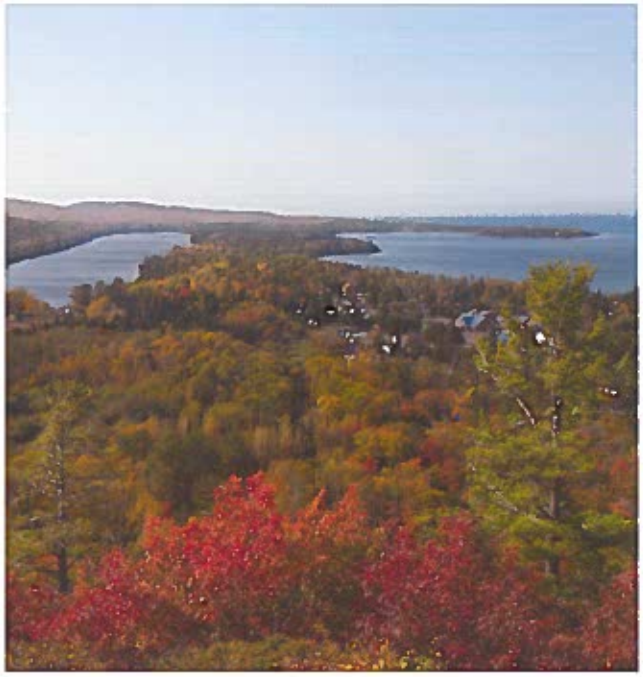
Leave a Legacy For Nature

Gifts from Legacy Club members are essential to our conservation work. In Michigan, the support of Legacy Club members has helped the Conservancy to preserve more than 370,000 acres, including fens and savannas in the south to boreal forests in the north.

The Legacy Club is a special group of people who have chosen to translate their passion and caring for the natural world into a gift that provides a lasting legacy of conservation results. Legacy Club members come from a range of diverse backgrounds and walks of life, but one common thread binds them: Their love for nature and their desire to conserve our lands and waters for future generations.

Members receive a subscription to *Nature Conservancy Magazine*, our award-winning publication; the semiannual newsletter, *Legacy*, which features additional news and insights into how we do our work; the Conservancy's annual report; and invitations to travel to domestic and international locations that offer unique and up-close glimpses into our projects.



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The Nature Conservancy and our partners have protected more than 14,000 acres at the tip of the Keweenaw Peninsula.

For more information on becoming a Legacy Club member and supporting The Nature Conservancy, contact Janet Lee at (517) 316-2270.